



Tobacco Control Research Branch

Behavioral Research Program

Division of Cancer Control and Population Sciences

The background of the cover features a photograph of a person's face in profile, smoking a cigarette. The image is heavily tinted with a teal or cyan color. In the foreground, there are large, dark silhouettes of palm fronds, creating a layered effect over the person's face.

Youth Tobacco Research Meeting

Poster Abstracts

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Breaking the Alliance: Defeating the Tobacco Industry and Its Allies by Enacting Youth Access Restrictions in Massachusetts

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Problem/Objective: A potentially effective means of reducing youth access to tobacco products is to persuade local governments to actively regulate the sale of those products by community merchants. To be successful, however, such a course requires surmounting the political opposition of the tobacco industry and allied local interests. It becomes paramount, then, to understand how this can be done. This study provides such an understanding by explaining how such an outcome was achieved by tobacco control advocates in Massachusetts.

Methods: This research project draws upon public documents of the Massachusetts Tobacco Control Program, those of nonprofit organizations, internal tobacco industry documents, public records of hearings on youth access regulations conducted by local boards of health in Massachusetts, and interviews with participants in local debates over those regulations.

Results: Adoption of youth access regulations by local boards of health in Massachusetts was a response to the actions of regulatory advocates that were funded by the State's tobacco control program. These advocates, consisting of board employees, attorneys from professional associations, and local community activists, provided boards with the resources, technical assistance, and community support they needed to enact regulations over the organized opposition of local merchants.

Discussion: Regulatory advocates attributed their success to a strategy that followed a set of principles. Chief among these were providing State funding for local tobacco control initiatives, but allowing local flexibility concerning the types of regulations adopted, and including in the advocacy coalition those professional organizations representing local boards of health and local elected officials.

Differing Strategies for Recruiting Teen, Young Adult, and Adult Smokers

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Effective strategies are needed to recruit teens and young adults to stop smoking interventions. The purpose of this study was to compare recruitment approaches used in clinical trials for smokers of different ages. This analysis included recruitment data from two studies recruiting teen smokers (11-17 years of age), one study recruiting young adults (18-21 years of age), and two studies recruiting adults (22 years of age and older) for stop smoking interventions.

The recruitment types used for all studies included booths in schools, radio, television, newspaper ads, flyers, letters sent to households, spokesperson, word-of-mouth (e.g., family and friends, justice system, school personnel).

Whereas the most popular form of study recruitment among all age groups is word of mouth from family and friends, (18 percent, 11.2 percent, 21.7 percent among teens, young adults, and adults, respectively), each age group had distinctive recruitment successes and failures. Among teens the most popular forms of recruitment were if a spokesperson informed them about the study (29.5 percent), or word of mouth by family members and friends (18 percent). For young adults, the most popular forms of recruitment were word of mouth through school personnel (40.8 percent) and a recruitment booth at the college (25.5 percent). Among adults (22 years and older) the most popular forms of recruitment were radio (41 percent), word of mouth through family and friends (21.7 percent), and television (9 percent). A table that compares the recruitment methods used for all five studies will be summarized. The results indicate that what is a successful method in one age group is not necessarily useful in another. For example, radio is a very popular media for recruitment of adults (41 percent) to enroll in a smoking cessation research trial, but is not very successful in prompting teens to action (5.1 percent). The same is also true for television ads (9.1 percent versus 2.1 percent, adults versus teens, respectively) and newspaper ads (13.3 percent versus 2.7 percent, adults versus teens, respectively). Moreover, whereas teens and young adults were more likely to listen to testimonials from a real person rather than react to an advertisement, adults were more likely to enroll in smoking cessation trials following media advertisements.

In summary, we propose that the best approach to take when trying to recruit teens and young adults in smoking cessation clinical trials is to appeal to the adult influences in the young person's life and to speak directly to the teen smoker. A sample of the advertisements and a summary of the classroom presentations used by our spokesperson will be included in this presentation.

Lessons Learned from 10 Years of Implementation of Adolescent Tobacco Intervention and Cessation Programs: TAP and TEG

James F. Crowley, MA Ed., President, Community Intervention

This poster session will present research, case studies, and conclusions from 10 years of work implementing two research-based, evaluated teenage tobacco intervention and cessation programs: Intervening With Teen Tobacco Users (TEG) and Helping Teens Stop Using Tobacco (TAP). Participants will leave this poster session with a clear understanding of the program component, examples of successful implementation in both the United States and Canada, summaries of published research, case studies, and opportunities for continued evaluation.

Activating Multiethnic Youth for Smoking Prevention: Baseline and Implementation Findings from Project SPLASH

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Design: Twenty middle schools in Hawaii were randomly assigned to a Standard Prevention Program or a Student Involvement Intervention Program (“Smoking Prevention Launch Among Students in Hawaii”). The SPLASH curriculum blended Social Cognitive Theory, Social Action Theory, and the Sense of Coherence construct from Antonovsky’s salutogenic model of health behavior as the foundation for a series of five online computer lessons, 5 days of youth advocacy lessons, and a 5-day drama education program. SPLASH students also participated in Virtual Day, where they posted tobacco-control messages to each other on the Internet. A control curriculum called Towards No Tobacco Use, Hawaii was developed based on Project TNT. In this 2-year intervention study, students were surveyed at seventh grade baseline (fall 2000), eighth grade baseline (fall 2001), and eighth grade followup (spring 2002). The main outcome will be mean 30-day smoking prevalence rates in each school. Saliva cotinine biochemical validation of student self-report of smoking was conducted after the eighth grade followup survey.

Results: *Baseline data.* A total of 3,716 seventh-grade baseline surveys were collected (78.4 percent response rate) with 47 percent in TNT-Hawaii and 53 percent in SPLASH. Subjects were 52 percent female and 48 percent male, and most (76 percent) were 12 years of age. Ethnic breakdown was 27 percent Native Hawaiian, 21 percent Filipino, 19 percent Caucasian, 14 percent Japanese, 13 percent other Asian/Mixed/Pacific Islander, and 7 percent Other. Students came from four islands: Oahu (41 percent), Hawaii (32 percent), Maui (17 percent), and Kauai (11 percent).

Smoking behavior. A quarter (25.8 percent) of students reported having ever smoked. One-third (8.1 percent) of students who had tried smoking had smoked in the past 30 days, most on fewer than 9 days. More than half the current smokers reported wanting to quit.

Psychosocial factors. Perceived risk of smoking was relatively high (mean = 3.7 on a scale of 1 to 5). Sense of Coherence (SOC) scores were generally in the middle range.

Process Evaluation. The SPLASH Web site contains five lessons, three in the seventh grade and two in the eighth grade. *Dissemination/Usage:* 6,411 student responses have been posted on the Internet during Virtual Day thus far. Students were also able to e-mail Toby, the SPLASH Tobacco- Busting Surfer-Dog mascot. To date, Toby has received 442 e-mails from seventh- and eighth-grade students. Samples of student e-mails to Toby and the SPLASH Web site will be shown at the poster session.

Conclusions: Analyses indicate few significant differences ($p < .05$) between treatment arms at baseline. The ethnic makeup of the treatment groups differed, however. Further analyses of the baseline data as well as the effectiveness of the interventions and main study aims (particularly cultural influences and ecological factors) are forthcoming.

Adolescent Smoking Cessation Escaping Nicotine and Tobacco (ASCENT)

Jeffrey Hoffman, Danya International, Inc.

There has been a growing need and demand for research-based and validated programs for youth cessation. Given that people who become addicted to nicotine during adolescence are much more likely to continue smoking as adults and to suffer the devastating health consequences of smoking, greater efforts must be taken to help youth to quit smoking. Danya International, Inc., with funding from the National Institute on Drug Abuse under a Small Business Innovation Research grant has developed a multifaceted smoking cessation intervention targeting adolescents, Adolescent Smoking Cessation Escaping Nicotine & Tobacco (ASCENT). This program is based on current research findings involving youth in the development and production process. The program includes a six-session smoking cessation facilitator's curriculum, a facilitator's video, a youth video, a pocket diary, and a parent pamphlet. The complete program package will be published by Hazelden Publishing, Co. for release this coming fall. The poster presentation will include the presentation of some preliminary pilot data from a clinical trial underway, as well as the showing of the 13-minute youth educational and motivational video.

Evaluating the Effects of Enforcements and Fines on Youth Smoking

Leonard A. Jason and Steven B. Pokorny, DePaul University;
and Mike Shoeny, University of Illinois at Chicago

Objective: The majority of adolescent smokers are able to purchase cigarettes even though laws prohibit the sale of cigarettes to minors. Restricting access to retail sources of tobacco and fining minors for possession of tobacco products were evaluated as possible strategies to reduce the rising rates of teenage smoking.

Methods: A community prevention study examined this issue with towns randomly assigned to one of two conditions. Four towns were assigned to enforce both tobacco minimum-age-of sales laws and tobacco possession laws (P). The remaining four towns were assigned to enforce only tobacco minimum-age-of sales laws (NP). Tobacco use among sixth-, seventh-, and eighth-grade students was assessed.

Results: White youth who lived in communities with regular enforcement and fines for possession had significantly less increases in tobacco use than those living in communities with only regular enforcement. These intervention effects were not found among the nonwhite youth. Over time, NP youth compared to P youth found significantly greater ease in obtaining tobacco and significantly more peer use of tobacco.

Conclusions: Public health interventions that involve police fining minors might decrease rates of tobacco use of white youth during a developmental time when they are susceptible to experimentation and use of tobacco products.

CHATT (Computers Helping Adolescents Talk Tobacco): Tobacco Cessation Project for Native American Youth, Phase I, Implementation of CHATT in the Schools

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The overall goal of the CHATT (Computers Helping Adolescents Talk Tobacco) project is to adapt, expand, and evaluate an effective computer-interactive cessation system to facilitate tobacco cessation among diverse Native American youth populations in the Southwest. CHATT is a randomized controlled school-based intervention to test individualized tobacco cessation counselors' (TCC) computer-aided cessation approaches with American Indian male and female smokers in grades 9-12. CHATT is a computer system that features a detailed smoking history, daily smoking journal, individual tailored feedback, and counseling vignettes. Using the Motivational Interviewing model, the TCC facilitates the student's cessation with the computer providing guidelines for discussion of tobacco use and strategies for quitting. CHATT has an additional component featuring traditional Native American storytelling techniques integrated into the computer program. The stories cover the use of tobacco with the following storytelling techniques: a) traditional, b) ceremonial, c) personal stories, d) fables, and e) blend of several of the storytelling techniques. The CHATT program is a collaborative effort among the University of New Mexico's Epidemiology and Cancer Control Program, the Indian Health Service Cancer Control Program, several tribes in New Mexico, and the Albuquerque Public School system.

In the spring of 2002, the CHATT project was implemented in several schools. Based on feedback from principals, teachers, and TCCs, several strategies for implementation of CHATT and recruitment of students were developed. An evaluation of staff computer skills, schools' computer hardware/software availability, and differences in delivery approaches (counseling department versus school-based health clinic) were evaluated, and changes in the CHATT program were modified to accommodate the skill level of the TCC and the computer systems at each school. Given this information, the storytelling component is currently under revision.

Is Self-Efficacy for Resisting Smoking, Coping, and Depression Related to the Level of Smoking in Adolescent Smokers?

Connie L. Kohler, Amy Wear, Yu-Mei Schoenberger, and Erin Smith,
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Background: A range of cognitive variables have been shown to be related to the amount or level of smoking in adolescents. Various measures of stress, coping, depressive symptoms, attitudes, and self-efficacy have been examined in relation to smoking behavior. We hypothesized that an adolescent's level of smoking would be associated with his or her use of different coping strategies (positive versus negative), depressive symptoms score, and report of

self-efficacy for resisting smoking, with heavy smokers using the most negative coping strategies, the fewest positive coping strategies, having the highest amount of depressive symptoms, and the lowest self-efficacy for resisting smoking.

Methods: Baseline data were collected from 122 adolescent smokers aged 16-19 enrolled in a study to evaluate an adolescent smoking cessation program. Adolescents' *level of smoking* was computed based on the number of days cigarettes were smoked in the past 30 days and the number of cigarettes per day. Coping strategies were assessed on the Ways of Coping Questionnaire (Folkman & Lazarus, 1988). *Negative coping strategies* included "escape-avoidance" subscale scores; *positive coping strategies* included "seeking social support" and "planful problem solving" subscale scores. *Depressive symptoms* were assessed with the CES-D 20 item scale (Radloff, 1991). *Self-efficacy* to resist smoking was assessed by a six-item scale that included difficult situations to resist smoking. The relation of level of smoking to the other four variables was assessed using MANOVA with post-hoc tests.

Results: In this sample, 12 percent were light smokers, 21 percent were moderate smokers, and 67 percent were heavy smokers. Negative and positive coping strategy scores ranged from 0 (never use) to 3 (use all the time). The mean (sd) score for negative coping was 1.61 (.75) and for positive coping was 1.60 (.76). Depressive symptoms scores ranged from 0 (symptoms not experienced) to 48 (symptoms experienced most days). The mean (sd) score for depressive symptoms was 18.66 (11.33). Self-efficacy scores ranged from 1 to 6, with higher score representing greater levels of confidence to resist smoking. The mean (sd) score for self-efficacy was 3.03 (1.16). The MANOVA was statistically significant ($F(12,270) = 3.02, p = .001$) and the four variables explained 28% of the variance in level of smoking. In the followup test for between subject effects, only the self-efficacy score was significantly related to level of smoking ($F(3,25) = 8.35, p < .001$).

Conclusion: In this sample, neither use of coping strategies nor depressive symptoms were related to level of smoking. Perceived self-efficacy to resist smoking was strongly associated with level of smoking.

Influence of Tobacco Use and Gender on Pain Tolerance in Adolescents

Suchitra Krishnan-Sarin, Ph.D.; Dana Cavallo, M.S.; Cheryl Pearson, B.S.;
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Adolescent tobacco use is a problem of epidemic proportions and understanding factors that mediate maintenance of smoking in adolescents is an important step towards developing better treatment options. It has been proposed that the avoidance of negative states like pain and anxiety may play a significant role in maintaining smoking behavior. This study will present a preliminary evaluation of pain tolerance in adolescent smokers and nonsmokers. Fifty-nine subjects, 34 nonsmokers and 25 smokers, participated in two separate sessions at the Children's Clinical Research Center (CCRC) of Yale-New Haven Hospital. Smokers continued to smoke prior to the first outpatient nonabstinent session, but were abstinent from cigarettes for 42 hours

prior to the second inpatient abstinence session. Pain tolerance was evaluated in both sessions using the cold-pressor task, in which subjects were asked to place their dominant hand in a bucket of cold water (0-3°C) for a period of 90 seconds. They were told that they could remove their hand from the water if and when they could no longer endure the pain (pain tolerance). A preliminary analysis of the pain tolerance data indicates a significant main effect of smoking status [$F(1,55)=7.26$, $p<0.01$], a significant smoking*sex interaction [$F(1,55)=10.34$, $p<0.01$], and a significant main effect of time [$F(1,55)=5.94$, $p<0.05$]. Post hoc analyses indicate that female smokers had significantly lower levels of pain tolerance during both the nonabstinent and abstinent sessions when compared with female nonsmokers ($p<0.001$), male smokers ($p<0.01$), and male nonsmokers ($p<0.001$). These findings suggest that smoking status and gender mediate changes in pain tolerance in adolescents who have limited smoking history.

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Teen Smoking Cessation Web Sites: A Survey of Likes and Dislikes

S. McIntosh, N. Andrus, B. Cougevan, J. Dimmig, J. Ditzel, K. Doran, S. Kardooni, S. Lee, Y. Lam, C. Webster, K. White, J. Kelly, and D.J. Ossip-Klein, University of Rochester

Three million adolescents in the United States smoke cigarettes. While teenagers are identified as the age group most likely to use the Internet, little is known about the effectiveness of Web-based smoking cessation intervention. In this pilot study, a convenience sample of students from three high schools was identified for surveillance. Students used school computers to view three Web sites that met inclusion criteria (smoking cessation-oriented, age-appropriate, etc.). The goal was to develop an effective survey to give teens in order to discover what kinds of Web site design and online methods of data dissemination were received by teens as the most effective and likeable in the context of these types of Web sites. Preferences are discussed. A future goal will be to develop evidence-based criteria for more successful and effective teen smoking cessation Web sites. This project was funded in part by NCI Grant.

Project FUERTE Youth and Family Participants: Initial Results

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Project FUERTE builds on the Latin American tradition of community health advisors, and the importance of family. Middle school students (MSSs) and their parents/guardians are recruited and paired with trained high school aged advisors (HSAs), who teach them about the dangers of tobacco and ways to prevent peer and other pressures to smoke. To date, a total of 75 families have been recruited to participate and 38 have been randomly assigned to the

intervention condition and paired with HSAs. The median age for the middle school student was 13 and 50 percent (38) are male. Their parents' median age was 38, 94 percent (71) are female, and 72 percent (54) of parents report they are married; 9 percent (7) living with partner, and 6 percent (5) never married. Nine percent (7) of the MSSs had ever tried or experimented with cigarettes, with 14 percent (11) reporting having close friends who have tried or experimented with cigarettes. Marlboro was reported as the most attractive cigarette advertisement by 34 percent (26) of the students. In addition, 34 percent (26) indicated they have a parent or guardian who smokes cigarettes; 26 percent (20) have a parent/guardian living in the same household who smokes cigarettes, and 70 percent (53) of the students indicated that smoking is completely banned in the home. The families have completed baseline measures and those paired with HSAs have started intervention lessons. Baseline instruments measure demographics, smoking behaviors and accessibility, family and peer social support, levels of communication, and a number of other psychosocial characteristics. The intervention includes six lessons and six booster contacts to teach the families about the dangers of tobacco, media and peer influences, decisionmaking and refusal skills, the importance of communication, self-esteem, and community resources. This poster will provide initial results from pre- and postmeasures for family participants who have completed the lessons.

The Youth Cessation Best Practices Initiative: An Update

Micah H. Milton and Catherine O. Maule

The purpose of the Youth Cessation Best Practices Initiative was to 1) conduct an analysis and evaluation of the current body of evidence on youth cessation interventions, and 2) develop consensus on the criteria for best practices. The Youth Tobacco Cessation Collaborative (YTCC) developed a coordinated research agenda to address the knowledge gaps in youth cessation and identified these short-term goals. The Canadian Tobacco Control Research Initiative, the Centers for Disease Control and Prevention, American Legacy Foundation, and the National Cancer Institute have all contributed funding for the initiative.

To date, the Youth Cessation Best Practices Initiative has 1) commissioned Steve Sussman to expand his review of youth cessation programs, 2) convened a panel of advisors, 3) conducted a systematic evidence review by a panel of researchers, and 4) brought together an expert panel of practitioners and researchers to contribute to this process. The result of these efforts is the Youth Cessation Guide, which provides practical guidance and recommendations to the provinces and states, and a special journal issue to describe the process and guide future research in youth cessation.

African American Teen Smokers: Issues to Consider for Cessation Treatment

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Previous reports have indicated ethnic differences in both tobacco-related morbidity and treatment outcome for smoking cessation among adults. We assessed smoking-related characteristics in African American (AA) and non-African American (non-AA) teenagers applying to a cessation trial. Three hundred ninety-nine teens (15.6 ± 1.5 years, 62 percent females, 33 percent AA) responded via telephone to media ads. Self-reported sociodemographic, medical, and smoking-related data were obtained to determine pre-eligibility for trial participation. Compared to non-AA, AA had lower Fagerstr m TND (FTND) scores (5.37 ± 2.18 versus 6.16 ± 2.10 ; $p < 0.01$) and smoked fewer cigarettes per day (12.1 ± 8.47 versus 15.7 ± 7.3 ; $p < 0.04$). AA teens reported shorter duration of smoking (3.16 ± 1.93 versus 4.0 ± 2.05 years; $p < 0.001$) and time elapsed between first cigarette ever smoked and daily smoking (0.88 ± 1.05 versus 1.31 ± 1.33 years; $p < 0.002$). However, FTND scores were similar in both groups after adjusting for number of cigarettes smoked per day (CPD). AA and non-AA teen smokers had similar motivation to quit (8.64 ± 1.68 versus 8.53 ± 1.59) and frequency of reported health problems (e.g., asthma, psychiatric conditions). These data suggest that cessation treatment research programs designed for African American youth should include lower Fagerstr m-defined levels, and possibly other criteria (that don't focus on CPD) for tobacco dependence.

Our findings also highlight the importance of ethnocultural issues in cessation research programs.

Youth Participants in a Smoking Cessation Study: Implications and Strategies for Recruitment and Retention

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While there is substantial knowledge of effective treatments for adult smoking cessation, little is known about the effective treatments for youth. A growing number of studies are addressing the knowledge gap surrounding youth tobacco dependence and tobacco cessation. Smoking cessation research with adolescents can be challenging, even for experienced cessation researchers. There is still much to be learned about how to effectively attract and retain youth into cessation programs, and the characteristics of youth who participate in smoking cessation programs.

This presentation will examine the characteristics of 257 adolescents, ages 14-17 years, who are participating in an ongoing double-blind, randomized, placebo-controlled, dose-ranging study to evaluate the safety and efficacy of sustained release bupropion in combination with brief counseling for smoking cessation.

The poster will describe characteristics of study participants: their smoking histories, motivations for quitting, confidence in quitting, availability of social support, concerns about withdrawal, and experience of withdrawal symptoms. In addition, we will compare the characteristics of youth who complete the study program with those who discontinue or are lost to followup. Drawing on the above information and experiences of the research team, we will discuss implications and strategies for enhancing youth recruitment and retention in smoking cessation studies.

This study is funded by the National Cancer Institute, Division of Cancer Control and Population Sciences, Tobacco Control Research Branch.

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Prospective Influence of Family Smoking Behaviors and Attitudes on Adolescent Smoking

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Background: For both scientific and public health reasons, it is paramount to identify accurately and quantitatively the role of family influences on child smoking acquisition. Using longitudinal data from a large, well-followed population-based cohort of children (N=3962, 48.7 percent female, 91 percent Caucasian) and their parents, multiple scientific questions involving the predictive influence of family smoking behaviors and attitudes on subsequent daily smoking by adolescents were investigated:

Q1: Is risk of daily smoking by children at age 17-18 a function of whether none, one, or both parents were smoking when these children were age 8-9?

Q2: Does parent smoking cessation occurring before the start of the child smoking acquisition period (age 8-9) lower the risk that children will become daily smokers by the end of this period (age 17-18)?

Q3: After accounting for parent smoking, is smoking by older siblings predictive of future daily smoking by children?

Q4: Are mothers' general attitudes about smoking and concerns about their children smoking, predictive of future child daily smoking at age 17-18?

Q5: Do antismoking actions by parents reduce the risk of child smoking, or mediate the association between parent smoking cessation and their children's smoking?

Methods: Parental and sibling smoking data were collected from parents at baseline, when the children were age 8-9. Adolescent smoking was self-reported 9 years later, at age 17-18. Conditional logistic regression analyses were performed, stratifying on school district and gender.

Results: Q1: Having one parent who smokes, irrespective of gender, almost doubles the risk that children will become daily smokers, relative to families where neither parent smokes (RR=1.91, p=.001). Having a second smoking parent further increases the risk (RR=1.41, p=.001).

Q2: When one parent had quit smoking and the other parent was never a smoker, there was a 38 percent reduction in the odds that their children would smoke daily, compared to families with one current smoker and one never smoker (OR=0.62; CI 0.45, 0.85). When both parents quit smoking by baseline, there was 39 percent reduction in the odds that their children would smoke, when compared with both parents' current smoking (OR=0.61; CI 0.44, 0.85).

Q3: After adjusting for parents' smoking, there was a significant increase in the odds that children would become daily smokers by 12th grade if they had older siblings who smoked (OR=1.60; CI 1.16, 2.18).

Q4: Maternal antismoking attitudes when children are young were associated with a 53 percent reduction in the odds that their children would smoke, but only when the parents didn't smoke (OR=0.47; CI 0.32, 0.68).

Q5: Without any antismoking action variables in the model, parent smoking cessation reduces the odds of children's smoking by 39 percent (OR=0.61; CI 0.49, 0.76). Three antismoking action variables in the model (e.g., home-smoking bans, asking others not to smoke around you, sitting in nonsmoking sections) were able to explain the association between smoking cessation and children's smoking, with that association becoming nonsignificant (OR = 0.84; CI 0.65, 1.09).

Conclusions: These results emphasize and quantify the need for public health interventions that target young families with smoking prevention and cessation assistance. Interventions should be considered that impress upon parents the value of quitting smoking while their children are young (before age 8), expressing antismoking attitudes to their children, and modeling their antismoking beliefs with antismoking actions (e.g., sitting in nonsmoking sections of restaurants).

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Helping Adolescents Quit Smoking: A Needs Assessment of Current and Former Teen Smokers

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As part of a larger project to design and evaluate a CHES-based Web site for adolescent smoking cessation, this study compared the survey responses of current and former adolescent smokers in terms of what they perceived would be helpful (or what had helped) in quitting smoking. Given that adolescent former smokers have successfully quit smoking, their views about what helped them quit should provide practical help in our efforts to create an effective smoking cessation Web site. The needs of current smokers are also important to understand, since they are the usual target of a smoking cessation intervention.

Our results showed that former smokers and current smokers in the preparation stage of change shared beliefs about the importance of interpersonal support, those who were contemplating a quit decision worried about obstacles and internal issues, and current smokers not thinking about quitting focused on external rewards.

Effect of Parental R-Movie Restrictions on Smoking Initiation: A Cohort Study

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Objective: To determine if young adolescents whose parents restrict viewing R-rated movies have a lower risk of trying smoking.

Design: Cohort study. To determine parental restriction from viewing R-rated movies at baseline, we asked adolescents

“How often do your parents let you watch movies or videos that are rated R?” (never [full restriction], once in a while [partial restriction], and sometimes/all the time [little or no restriction]).

Study Population: Students from 15 schools in Vermont and New Hampshire, randomly selected from all middle schools with more than 150 students, were surveyed in 1999. Baseline never smokers were again surveyed by telephone 13-24 months later to determine smoking status.

Outcome Measure: Initiation of smoking during the followup period.

Results: Of 2,596 never smokers at baseline, 52 percent reported little or no restriction from viewing R-rated movies, 29 percent partial restriction, and 19 percent full restriction. R-movie restriction was associated with all other predictors of smoking, including age, sex, sensation-seeking propensity, rebelliousness, self-esteem, parent education, parent smoking, sibling smoking, friend smoking, authoritative parenting, and parental disapproval of smoking. The smoking rate was higher for adolescents with greater latitude to view R-movies: 3 percent for those with full restriction, 7 percent partial restriction, 16 percent no restriction. Compared with adolescents with full restriction, the adjusted relative risk for trying smoking was 1.8 (1.03, 3.1) for adolescents reporting partial restriction and 2.7 (1.6, 4.6) for those with no restriction. After adjustment for the effects of other covariates, the risk of smoking attributable to R-movies was 0.32.

Conclusion: Young adolescents whose parents allow R-movie viewing are at substantially and significantly higher risk for taking up smoking over the following year. After adjustment for other factors that predict smoking, almost two-thirds of smoking initiation we observed during this period would have been prevented or delayed had parents not allowed their young teens to watch R-rated movies.

Pediatric Residency Training Program on Tobacco: Baseline Data

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Tobacco use has been called a pediatric disease, affecting children from infancy through young adulthood. The pediatrician is in a unique position to intervene on tobacco use and exposure in children and families, with the potential to provide lifelong benefits to their health and well-being. This study assesses the efficacy of a comprehensive training program on tobacco intervention for pediatric residents. Fifteen pediatric residency programs from New Jersey and New York City are enrolled in the training. Each program is randomized to one of two training groups and will participate in the training for 3 years. The first group receives traditional instruction (TI) consisting of background reading material, three hour-long seminars per year with the instructors, and patient education materials on environmental tobacco smoke (ETS), smoking cessation, and prevention for use in the primary care clinic. The second group receives special intervention (SI) consisting of access to a hybrid Web site/CD-ROM training program (available for review), three hour-long seminars per year, and clinic mobilization including special intervention materials for patients on ETS, cessation and prevention, posters for the clinic, and chart reminders.

Evaluation of the efficacy of the training programs is by annual surveys of the residents, annual observed structured clinical examinations (OSCEs) of the residents, and annual surveys of patients and parents, which assess residents' intervention behaviors in the primary care clinic. This present performed by the resident in the course of clinical practice. The OSCE is an observed simulated clinical encounter by the resident with an actor serving as a standardized patient. Each resident participates in two OSCEs, one involving the parent of an asthmatic child and her exposure to ETS, the other involving a high school senior who is a smoker. The residents are scored on specific interviewing skills (e.g., use of open-ended questions, thoughtful reflection) and intervention behaviors (e.g., setting a quit date, use of role-playing, behavioral contracts). Surveys and OSCEs will be repeated each year of the study, and comparisons will be made between the two groups at baseline, and after participation in the training programs.

Comparison of the baseline data shows little difference between the two groups on both the resident survey and the OSCE. The data demonstrate the need for training in tobacco intervention among pediatric residents. The resident survey shows that few residency training programs offer formal training on topics of tobacco control. For example, only 25.9 percent of the TI and 31.8 percent of the SI programs offer training on ETS reduction. While most residents believe pediatricians have an important role to play in the prevention of smoking onset in youth (4.68 SI and 4.62 TI on a scale of 1-5 where 5 is "very much agree"), they feel unprepared to do so (1.21 SI and 1.26 TI on a scale of 1-4 where 1 is "very unprepared"). In addition, they are not convinced about the efficacy of such interventions (2.85 SI and 2.88 TI on a scale of 1-5 where 1 is "very much disagree" and 5 is "very much agree"). These beliefs are reflected in the residents' clinical practice. While most residents ask patients and parents about tobacco use (97 percent SI and 95.1 percent TI) and advise them to quit (87.2 percent SI and 85.3 percent TI), few report assisting them to do so (31.1 percent SI and 35 percent TI). Furthermore, the OSCE demonstrates

that few residents utilize specific intervention techniques when counseling patients on tobacco, for example, setting a quit date (26.7 percent SI and 32.8 percent TI), use of role-playing (1.5 percent TI and 1 percent SI), or use of behavioral contracts (0.8 percent SI, 0 percent TI).

Our baseline data highlight the lack of training on tobacco offered to pediatric residents and the degree to which residents feel unprepared to intervene and lack the necessary skill to do so. A previous survey by the authors demonstrated that one of the reasons pediatric residency programs do not offer training on tobacco is a lack of training resources and expertise. This study evaluates a self-guided, distance-learning tool, the Web site/CD-ROM training program, which, if validated, could help fill that need for a large number of pediatric residents.

Feasibility of a Family-based Tobacco Prevention and Cessation Intervention

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Background: Even parents who smoke do not want their children to become smokers. Parent smokers worry about setting a bad example for children and in turn, children worry that parents will get sick from smoking, and want them to quit. This dynamic can make it difficult for families to talk about smoking in ways that discourage youth initiation and encourage adult cessation of smoking.

Aims: 1) To develop a mailed intervention for families that includes an adult-child dyad in which the adult is a current smoker and the child is between the ages of 9 and 12; 2) To determine effective methods of recruitment of dyads; 3) To evaluate use of and receptivity to intervention materials; and 4) To measure short-term behavior changes including increased communication about issues of smoking.

Methods: An intervention that includes six modules to be provided by mail and a protocol for three brief check-in telephone calls has been developed. Themes included in the modules are: how to talk with children about reasons not to smoke; how smoking can interfere with parents and children's goals; the difficulty of quitting smoking; things children can do to help loved ones quit; and practical steps for quitting. Households are being proactively recruited from a Family Medicine Clinic patients list and a purchased commercial list of households. In addition, clients at two county health departments are being given information about the project during clinic visits. All participants will be surveyed by telephone at baseline and a 4-month followup will be conducted with the 9 to 12-year-old child and the smoker in the household. Households in the active intervention group will begin receiving the intervention immediately after the baseline survey. Households in the delayed intervention group will receive the project materials after the followup interviews. Evaluation of use of intervention materials and short-term behavior changes will begin in July 2002.

Next Steps: Recruitment will begin in May 2002. Followup interviews and the evaluation of use of intervention materials and short-term behavior changes will begin in September 2002.

Relationship Between Television, Antismoking Advertising, Tobacco News Coverage, and Youth Smoking

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While there is evidence that antismoking advertising can influence tobacco use, not all campaigns report these effects for youth. In addition, some studies suggest news coverage on tobacco can lead to reductions in consumption, but few studies have examined the effects of news coverage on youth smoking. This 4-year project is relating indices of televised antismoking advertising and tobacco news coverage to data on smoking-related attitudes, intentions, and behavior from annual surveys of 8th-, 10th-, and 12th-grade youth. This design aims to tap the variation in antismoking advertising and news coverage that has occurred over time and between communities in the United States, effectively generating a natural experiment.

The project will use archival data to construct indices of exposure to antismoking advertising using gross rating points (TRPs) in each selected community from 1994 through 2002. Indices of “effectiveness-adjusted” TRPs will be constructed, based upon youth responses to a sample of advertisements that represent the universe of ads in the database. In addition, measures of exposure to newspaper stories about tobacco issues for community from October 2000 through December 2002 will be constructed using news clip data from Burrelle’s Information Service and mapped to communities through information on newspaper circulation from the Audit Bureau of Circulation. Newspaper articles will be coded for content area and slant, as well as a number of measures of prominence.

This study, by assessing the value of antismoking advertising and media coverage in reducing smoking among youth, will guide health policy and funding decisions related to youth smoking prevention.

Psychosocial Variables and Age of Smoking Onset: A Person-Centered Analysis

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Four-wave longitudinal data on smoking and psychosocial variables were obtained from a sample of 1,364 adolescents surveyed yearly from 7th grade (M age 12.4 years) through 10th grade. Cluster analysis of 4-wave smoking data indicated groups of abstainers (50 percent of the sample) and minimal experimenters (25 percent), and three groups with smoking monthly or more often in 7th grade (early onset, 6 percent), 9th grade (intermediate onset, 9 percent), and 10th grade (late onset, 10 percent). Several psychosocial variables differentiated the onset groups, with repeated measures analyses showing both between-group effects and Group X Time interactions. The early-onset group had higher levels of risk factors and lower levels of protective

factors from 7th grade onward, compared with abstainers and experimenters, and levels of these factors did not change differentially over time. Group X Time interactions indicated the intermediate-onset group showed changes in predictive factors (e.g., increases in negative affect and tolerance for deviance, and decreases in parental support) between 8th grade and 9th grade, and the late-onset group showed changes in predictive factors between 9th grade and 10th grade. Minimal experimenters, who smoked a few times a year but never became weekly/daily smokers, were elevated in predictive factors above abstainers, but remained below levels shown by the onset groups. The findings have implications for discussions about the causality of smoking: they show that temporal changes in predictive factors are related to different types of onset. The fact that there are clearly distinct groups of smokers, with onset at different ages, and with different loadings of risk and protective factors, also has implications for the design of smoking prevention programs.

High-Risk Teen Tobacco Use Prevention Through Advocacy

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Aim and Design: This randomized trial developed and evaluated a new tobacco prevention curriculum (Youth Advocacy Program) for high-risk 11th- and 12th-grade students attending 8-10 alternative high schools in Northern California. The teens who attend alternative high schools face significant home and academic challenges—all have been asked to leave traditional high schools and most are from low-income homes. The Youth Advocacy Program curriculum (Treatment) was tested against an attention-placebo substance abuse curriculum (Control). Students were recruited over the course of 4 separate semesters.

Hypothesis and Measurement: The goal of the Youth Advocacy Program is to reverse the progression from experimental/light smoking to regular smoking by solidifying teens' intentions not to smoke, and by engaging teens in community advocacy activities to counter community and environmental influences on teen tobacco use. We hypothesize that experimental/light smokers in the treatment schools will experience a 35-percent quit rate at the end of the semester-long intervention compared with a 5-percent quit rate among experimental smokers in the control schools, and that the reduction will be maintained for 6 months following the intervention. Teens at the treatment and control schools completed three surveys, one preceding the intervention (preintervention), one immediately following the intervention (postintervention), and one 6 months postintervention (maintenance). Smoking was confirmed by an assessment of the students' carbon monoxide level.

Treatment Curriculum: The treatment curriculum, Teens Take Action, is a program that focuses on teens engaging in advocacy about smoking. The semester-long intervention included 25 hours of classroom activities, 8 hours of a Youth Advocacy Institute, and 20 hours of community-based advocacy activities. The intervention offers the first empirical test of a program that seeks to prevent long-term addiction to tobacco among teens who have high rates of experimental smoking by:

- Modifying proximal social influences on smoking (e.g., perceived norms and values);
- Building awareness of distal environmental influences on smoking that stimulate teen tobacco use by increasing acceptability and availability of cigarette use in the community, and persuading teens that, as targets of these influences, they have an important role in countering them;
- Engaging teens in identifying prosmoking influences in their immediate communities, and then designing and implementing advocacy activities to modify these influences.

Control Curriculum: The control curriculum is a modified version of Towards No Drug Use, a state-of-the-art substance-use curriculum that has been tested in alternative high schools. The modified curriculum focused on student risk factors associated with substance abuse by providing information and promoting a clear “no use” message. The curriculum focused on “gateway drugs,” those drugs that national norms indicate young people are most likely to try first, such as alcohol and marijuana. The semester-long intervention included 25 hours (90-minute periods once a week).

Progress to Date: Approximately 25 students were recruited from 8 to 10 of the alternative high schools each phase, resulting in a total sample of 813 students. Five schools were randomly assigned to the Youth Advocacy Program curriculum and five to the placebo-attention curriculum. Only one 6-month post-intervention (maintenance) survey remains to be completed.

The sample is represented equally by gender and is ethnically diverse: 40 percent Hispanic, 23 percent White, 18 percent mixed ethnicity, 13 percent Asian-American/Filipino, 5 percent African-American, and 1 percent Native American.

The preintervention smoking rates are presented below by gender:

Current Smoking Status	Boys (percent)	Girls (percent)	Total (percent)
Nonsmoker	31	35	33
Ex-smoker	15	16	15
Occasional smoker	16	17	17
Regular smoker	9	10	9
Daily smoker	29	22	26